



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/547,443	11/07/2005	Marysusan Couturier	L3799-01	1200

33250 7590 09/15/2008  
W. R. GRACE & CO.-CONN  
ATTENTION: PATENT DEPARTMENT  
62 WHITTMORE AVENUE  
CAMBRIDGE, MA 02140

EXAMINER
----------

OJURONGBE, OLATUNDE S

ART UNIT	PAPER NUMBER
----------	--------------

1796

MAIL DATE	DELIVERY MODE
-----------	---------------

09/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/547,443	<b>Applicant(s)</b> COUTURIER, MARYSUSAN	
	<b>Examiner</b> OLATUNDE S. OJURONGBE	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 22-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Amendment filed on June 16<sup>th</sup>, 2008 has been entered. Claims 22-34 are pending in the application.

### ***Terminal Disclaimer***

2. The terminal disclaimer filed on June 16<sup>th</sup>, 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the full statutory term of prior patent No. 6,806,313 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 30-31 and 33-34** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 30 and 33 recite the limitation "A closure according to claim 1" in line 1 of each claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 31 and 34 are rejected on this basis because they depend on claims 30 and 33 respectively.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 22-28 and 33**, are rejected under 35 U.S.C. 102(b) as being anticipated by Knight et al (EP 0129309) as evidenced by Burdock, G. (Oxidized Polyethylene Wax).

Regarding **claims 22 and 33**, Knight et al teaches a sealing gasket on the inner surface of a closure for a container (page 1, lines 1-2) that comprises:

- thermoplastic polymeric material, exemplifying a wide range of thermoplastic polymers including polyethylene, polypropylene, polyvinyl chloride and mixtures of these polymers (page 6, line 26-page 7, line 7), this serves as polymer component A of the instant claim;

- 0 to 30% of a wax, and exemplifies polyethylene wax (page 7, lines 30);  
0.1 to 10% of slip aid, said slip aid preferably is a blend of silicone oil and fatty amide in the proportions by weight 1:0.5 to 1:2, the fatty amide being for instance stearamide (page 9, lines 7-13).

Knight et al further exemplifies the silicone oil as a 60,000 Cs polysiloxane (page 10, lines 10-11). A silicone oil with a viscosity of 60,000 Cs has an average molecular weight of about 94,000.

Art Unit: 1796

When the polyethylene wax, the silicone oil and fatty amide ,are all present in the composition of Knight et al, as exemplified in Example 2 (page 10, line 28- page 11, line 12), the silicone oil serves as the lubricant and the combination of polyethylene wax and fatty amide serves as the slip aid of the instant claim respectively.

Though Knight et al does not explicitly teach the composition comprising a slip aid comprising a saturated amide having an iodine value no greater than 5 in accordance with ASTM D2075-92, the examiner notes that the iodine value of an amide is an inherent property of the amide.

Though Knight et al does not teach the composition comprising a slip aid comprising an oxidized polyethylene, it is known in the art as evidenced by Burdock that polyethylene undergoes oxidation in air to produce oxidized polyethylene, hence, the polyethylene wax of Knight et al inherently undergoes oxidation to produce oxidized polyethylene wax.

Regarding **claim 23**, Knight et al teaches all the claim limitations as set forth above; Knight teaches stearamide as an example of the fatty amide of the invention (page 9, lines 10-11).

Regarding **claim 24**, Knight et al teaches all the claim limitations as set forth above and exemplifies the composition comprising 80 parts of ethylene vinyl acetate and 4.05 parts of polyethylene (EXAMPLE 2, page 10, lines 29-32). The mixture of ethylene vinyl acetate and polyethylene serves as polymer component (A) and the amount of

Art Unit: 1796

ethylene vinyl acetate in the mixture is 95 parts based on 100 parts of the polymer component (A).

Regarding **claim 25**, Knight et al teaches all the claim limitations as set forth above and further teaches the composition containing polyethylene (page 8, lines 4-5).

Regarding **claim 26**, Knight et al teaches all the claim limitations as set forth above and further teaches that the thermoplastic polymeric material may be selected from a wide range of thermoplastic polymers including copolymers of ethylene propylene (page 6, lines 26-30). Copolymer of polyethylene and polypropylene is a copolymer of ethylene propylene.

Regarding **claim 27**, Knight et al teaches all the claim limitations as set forth above and further teaches that the thermoplastic polymeric material may be selected from a wide range of thermoplastic polymers including copolymers of ethylene propylene (page 6, lines 26-30) and that the preferred polymers are one or more ethylene vinyl acetate copolymers optionally blended with a polyalkylene (page 7, lines 4-6). A copolymer of ethylene propylene is a polyalkylene.

Regarding **claim 28**, Knight et al teaches all the claim limitations as set forth above further teaches the thermoplastic polymeric material may be selected from thermoplastic polymers including polyvinyl chloride (page 6, lines 26-29).

***Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S.Code not included in this action can be found in a prior office action.

7. **Claim 29** is rejected under 35 U.S.C. 103(a) as being unpatentable over Knight et al (EP 0129309) as evidenced by Burdock, G. (Oxidized Polyethylene Wax), in view of White (US 5,955,163).

Regarding **claim 29**, Knight et al teaches all the claim limitations as set forth above and further exemplifies the composition comprising polyethylene (see Example 2, page 10, lines 29-33). Knight et al does not teach the closure wherein said polymer component comprises polyethylene, polypropylene or a mixture thereof and further comprises styrene-ethylene butylene-styrene block copolymer.

White teaches a crown cap having a gasket formed of a thermoplastic material characterised in that the thermoplastic material comprises a hydrogenated copolymer of styrene and conjugated diene or a functionalised derivative thereof (col.3, lines 29-34). White further teaches that gaskets formed from the incorporation of the hydrogenated styrene-diene copolymer have among other properties extremely good sealing properties and high temperature resistance (col.3, line 64-col.4, line 24).

White further teaches that the hydrogenated styrene-diene copolymer is preferably a block copolymer and that suitable copolymers include styrene ethylene butylene styrene block copolymer (col.4, lines 31-37).

Art Unit: 1796

Since both inventions of Knight et al and White are in the same field of endeavor (cap liners), one of ordinary skill in the art would have incorporated styrene ethylene propylene styrene block copolymer as taught by White into the composition of Knight et al in order to have a composition with, amongst other properties, an extremely good sealing properties.

8. **Claims 30-32 and 34**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Knight et al (EP 0129309) as evidenced by Burdock, G. (Oxidized Polyethylene Wax) as applied to claim 22 above, in view of Akao et al (EP 0569950).

Regarding **claim 30**, Knight et al teaches all the claim limitations as set forth above. Knight et al does not teach the closure wherein said saturated amide is behenamide.

Akao et al teaches a similar composition comprising crystalline resin (page 3, line 36- page 4, line 28) and lubricant that includes fatty acid amide (page 4, line 41). Akao et al further teaches behenic acid amide and stearic acid amide as functional equivalents (page 4, lines 45-46); since the composition of Akao et al is similar to that of Knight et al one of ordinary skill in the art would have substituted the stearamide of the invention of Knight et al with behenic acid amide as taught by Akao et al by routine experimentation.

Behenic acid amide and stearic acid amide are behenamide and stearamide respectively.



Regarding **claims 31, 32 and 34**, Knight et al teaches all the claim limitations as set forth above. Knight et al does not teach the closure wherein said organopolysiloxane is polydimethylsiloxane.

Akao et al further teaches the composition comprising dimethylpolysiloxanes silicone lubricants (page 5, line 26); since both compositions of Akao et al and Knight et al are similar, one of ordinary skill in the art would have used dimethylpolysiloxanes as the silicone oil of knight et al.

### ***Response to Arguments***

9. Applicant's arguments filed June 16<sup>th</sup>, 2008, have been fully considered but they are not persuasive.

The applicant's arguments concerning the oxidation of polyethylene contradict known fact in the art as taught by Winslow in "New Protectants for Polyethylene"; Winslow teaches that polyethylene has one serious weakness, which is that it readily oxidizes (page 319, column 1, lines 26-30 and excerpt in top right corner). Winslow further teaches that oxygen from the surrounding air can easily permeate the polymer structure and if the polyethylene molecules are activated by absorbing energy in the form of heat or ultraviolet light, oxidation follows (page 320, col.1, lines 15-19); the conditions that produce oxidation are present almost everywhere (page 320, col.2, lines 20-23).

The production of oxidized polyethylene at high temperatures as disclosed by US 4,889,897 does not preclude the fact that polyethylene readily undergoes oxidation in the presence of air.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLATUNDE S. OJURONGBE whose telephone number is (571)270-3876. The examiner can normally be reached on Monday-Thursday, 7.15am-4.45pm, EST time, Alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571)272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1796

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

O.S.O.

/Randy Gulakowski/  
Supervisory Patent Examiner, Art Unit 1796

Application/Control Number: 10/547,443  
Art Unit: 1796

Page 11